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ABSTRACT

Two experiments to study the development of the meaning of laughter in children are reported. A pilot study presented recorded audio tapes with both humorous and nonhumorous episodes, some with accompanying canned laughter, to 24 boys between the ages of 4 and 6 years. Observers recorded durations of laughter and smiling. Results showed that both responses reflect social context, and occur more in a group situation. Four-year-olds smiled more when alone than 6-year-olds who smiled most when in the group situation. The two groups gave different responses in rating stimuli as humorous. Humor responses and ratings were not correlated. In the second study, 48 4- and 6-year-old boys, in groups of three, listened to two audio tapes which contained essentially nonverbal humorous and nonhumorous stimuli. On one tape the third stimulus was followed by 10 seconds of silence, on the second tape by 5 seconds of laughter and 5 of silence. Videotapes showed that 6-year-olds laughed and smiled with the laugh track more than 4-year-olds. Laughter and smiling were significantly related at age 4 but not at age 6. This study supports the hypothesis that the social mirth response, in terms of both live group and recorded laughter, is developmental in nature. (DR)

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SOCIAL INFLUENCES ON CHILDREN'S HUMOR RESPONSES[1]

Stephen M. Kosslyn and Barbara A. Henker

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A number of writers, among whom can be included the notable Charles Darwin, claim that certain lower primates can laugh and even have something of a sense of humor. However, these qualities are usually regarded as being characteristically human. Many have reflected on the importance and predominance of humor and laughter in everyday human existence; some have regarded a world without humor as dreary and lifeless while others, albeit a minority, have seen such a world as closer to a morally wholesome and divine state. In either case, the possession of a sense of humor seems significant.

The sense of humor might be regarded as a composite of what one thinks is funny and what one actually laughs at. There is undoubtedly a relationship between these two components, but they are not the same thing, nor are they even highly correlated. While the perception of humor, that is, what one perceives as being funny and what one responds to with laughter, may be a product of social learning, this does not necessarily imply that the psychological mechanisms underlying humor and laughter are dependent upon experience. Researchers have found significant differences in humor ratings made by people from different socioeconomic and educational backgrounds. Different social learning experiences result in different humor responses. There are, for example, national characteristics such as the straight-faced British sense of humor, or the more individualistic Feiffer sense of humor, and so on. In fact, a sense of humor is probably more accurately perceived as a social rather than a person-based phenomenon. Young (1937) found a very low correlation (.28)

between estimates of frequency of laughter and estimates of cheerfulness made by adults in describing their own behavior. Similarly, most people rarely laugh when they are alone; if they do, either they feel embarrassed or look for someone with whom to share the object of their humor. It is probably experience in these social-humor situations that determines the child's sense of humor.

The learning process that shapes what an individual responds to as funny is doubly interesting because of the circular fashion in which the response then becomes a reinforcing stimulus. Depending on when and where a laugh occurs, it can be a positive reinforcer (laughing with) or a negative reinforcer (being laughed at). Thus, laughter comes to convey a social meaning. Essentially, what this study is concerned with is the development of the meaning of laughter. Virtually all the studies in this field, such as those by Young & Frye (1966), Perl (1933), and Brackett (1934), would indicate that group administration, laughing stooges, and general "social facilitation" greatly enhance an individual's mirth (laughing and smiling) response to a stimulus. Most research in this area has been concerned with the individual's ratings of humor situations alone or in groups. A study by Brackett (1934) found a high correlation (.75) between frequency of a child's own laughter and his presence in situations where other children laughed. Ratings of jokes when told to a group are usually higher than when the same jokes are told to an individual alone. Due to the nature of the problem, the difficulty of maintaining control of the experimental stimuli, and collecting data in a social situation which requires the observer to follow the child around with a stopwatch, few experimental studies have focussed on the actual response and how it

develops. Only recently, with the availability of sophisticated technological equipment, has it become possible to study such transient phenomena.

STUDY I

Method

The first or pilot study consisted of presenting recorded audio tapes, containing both humorous and non-humorous episodes, with and without accompanying canned laughter, to 24 boys between the ages of four and six years at a University Elementary School. Each child heard a tape twice, once in a group of three and once alone. The sessions were counterbalanced so that half of the children heard the material first in a group of three and then alone, while half heard the same tape alone first and then in a group. There were four different tapes, each having the same five stimuli. The first stimulus was intended primarily as a "warm-up" or setting event and occupied the first position on all four tapes. The remaining four stimuli consisted of a humorous and a non-humorous "joke" with and without an accompanying laugh track. These stimuli were counterbalanced across the four tapes in an effort to control for ordering effects.

The children heard the material in a room by themselves, sitting so that observers could record durations of laughter and smiling from an adjoining room through a one-way mirror. Responses were recorded by depressing buttons on an Esterline-Angus event recorder. There was a minimum of one observer per child, sometimes more to establish reliability. A smile was operationally defined in terms of uplifted cheeks and upturning of the corners of the mouth. A laugh was defined as a smile (facial configuration) plus a noise and/or evidence of convulsive, rhythmic breathing.

After each session the children were asked if they thought the material was "funny."

Results

This preliminary study showed that laughter reflects social context, with much more laughter occurring in the group situation. Smiling was also found to be under social control, much more of it also occurring in groups. Figure 1 shows an interesting interaction between age and social situation, with the four-year-old boys smiling more than the six-year-olds in individual conditions but six-year-olds smiling more in groups. Also, four-year-olds showed more extended intervals of smiling responses in the group situation when they had previously heard the tape alone, while six-year-olds smiled most when the group came first. Laughter and smiling tended to be influenced by laugh tracks and by humor content, but these effects were of only borderline statistical significance. A significant difference was found, however, in the differential responses to the individual's ratings of the humor stimuli. All of the four-year-olds who heard the tape first in a group later answered "yes" when asked if it was funny given the material alone; conversely, all the six-year-olds who heard the stimuli in the group first said the items were not funny when they listened to them alone. There was no dependable relationship between the ratings and the actual responses produced by the child in the group situation.

Discussion

The fact that four-year-old boys smiled more when alone than six-year-old boys and that the reverse was true in the group situation would seem to be a reflection of the differential potency of social stimuli, with six-year-olds tending to be more "socially sensitive." The fact that the four-year-olds

smiled more than the six-year-olds when alone might also be a measure of the relative stimulus potency for each age group, as well as of social sensitivity. Failure to find a significant difference in responses to what adults thought were funny and non-funny jokes might support this idea. It may be that the six-year-olds smiled less in the group after hearing the materials alone because the jokes had lost their novelty, whereas the younger children needed a second hearing to fully understand the situation, thus indicating a cognitive component to the humor response.

The difference in the ratings of the taped materials as funny or not funny might reflect social influence on the second aspect of sense of humor, i.e., what one thinks is funny. The negative remarks of the majority of the six-year-olds who were questioned in the group situation first may have influenced the others to respond later that the stimuli were not funny. The reverse was true for the four-year-olds. The lack of correlation between response and ratings supported the preliminary hypothesis that there are two independent components to what is called a "sense of humor." Following this pilot work, a second study was designed to focus on the developmental factors of social laughter in the group, especially the effects of taped laughter, and to eliminate the confounding of order effects.

STUDY II

Method

In the second study, 48 four- and six-year-old boys, in groups of three, listened to one of two audio tapes, both of which contained two humorous and two non-humorous stimuli. An attempt was made to make these stimuli essentially non-verbal. The only difference between the two tapes was in

PS 003007

the third stimulus. On one tape the third stimulus was followed by ten seconds of silence; on the second tape it was followed by five seconds of taped laughter and then five seconds of silence. The children's responses were recorded on videotape. The humor stimuli were presented in a partitioned area of a mobile laboratory, with the experimenter, tape recorder, and videotaping equipment in a separate area not visible to the children. The videotapes were later reviewed by two independent scorers who transferred the laugh and smile durations to an Esterline-Angus event recorder.

Results

Using the videotaped records of the humor responses, it was possible to obtain an average inter-observer agreement of 92%. This level of agreement provided confidence that the data were reliable response indices. Referring to Figure 2, it can be seen that the six-year-olds laughed more than the four-year-olds. The six-year-olds laughed more in response to the tape with the laugh track than did the four-year-olds. They also smiled more than did the four-year-olds, but the most interesting finding was in the more detailed analysis of responses to the third stimulus. As indicated earlier, the first part of this stimulus was the "funny" sound itself. This was followed by an interval of five seconds of silence; then, on one tape, there were five more seconds of silence, while on the second tape there were five seconds of taped laughter. There was significantly more laughter during the first half of the interval than the second half for both tapes. However, the four-year-olds laughed more with no laugh track while the six-year-olds laughed more with the laugh track. Conversely, the four-year-olds smiled more with taped laughter and the six-year-olds smiled more without laughter on the tape. Finally, laughter and smiling were found to be

significantly related ($r = .48$, $p < .01$) at age four but not at age six.

Discussion

The second study strongly supports the hypothesis as to the developmental nature of the social mirth response, both in terms of live group laughter as well as recorded laughter. The difference in the responses of the two age groups is dramatically portrayed in the videotapes. The four-year-olds can be seen to pause and listen and wait for the laughter to come on before they begin to respond, while the six-year-olds do not. This difference may be attributed to the greater time required for the younger child to interpret the meaning of the stimuli, whereas the older children may be more familiar with this class of events from having watched more T.V. and also may be able to comprehend the meaning and thus respond more quickly.

The lower correlation between laughter and smiling with the older group is interesting in light of Washburn's (1929) finding that infants who tend to smile early also laugh early ($r = .80$). Presumably, part of developing a sense of humor entails having learned highly differentiated gradients of responding. That is, the four-year-olds smile more than the six-year-olds in response to taped laughter, while the six-year-olds respond with laughter, which is more relevant to the situation.

One inference that can be drawn from the data showing age-related differences in responses to mirth stimuli is that these responses can be used as an index of level of socialization and emotional development. Pursuing this line of research, efforts are being made to construct and validate a measure of social-emotional growth based on a scale of responses to mirth stimuli.

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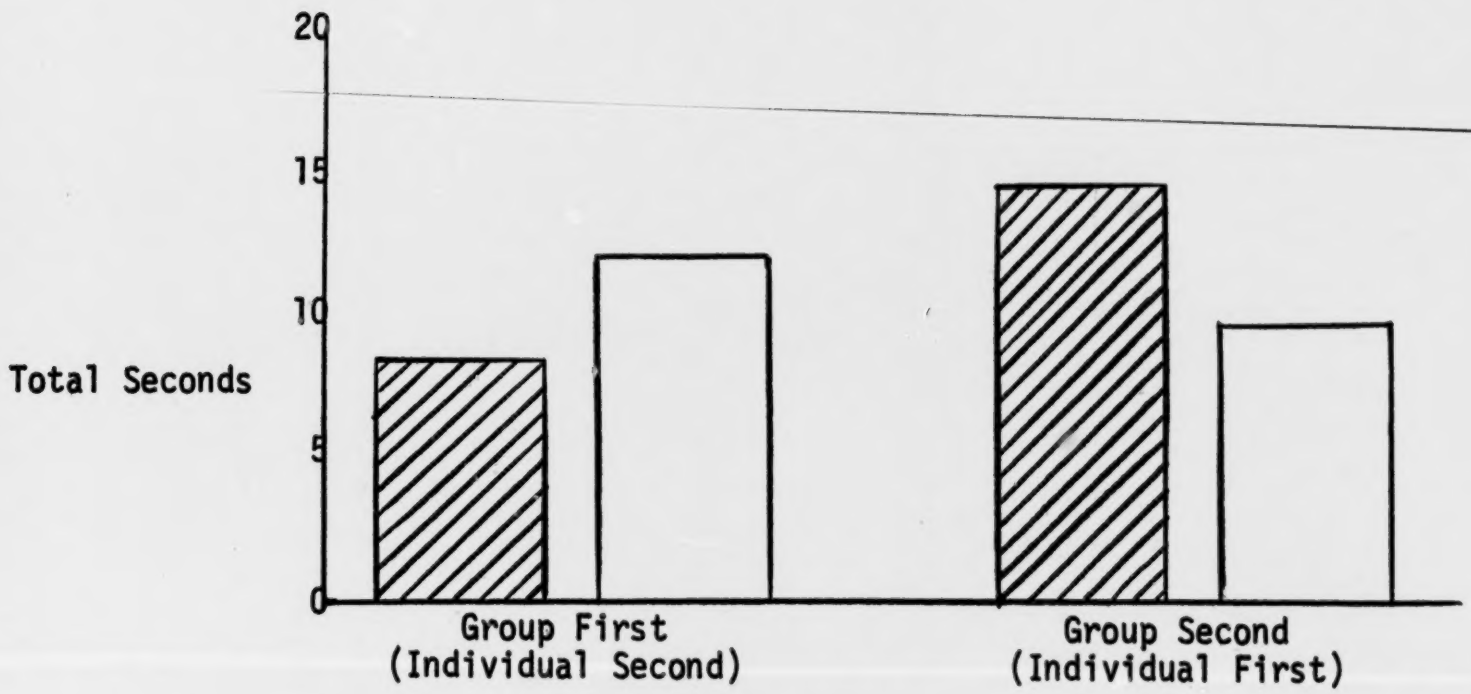
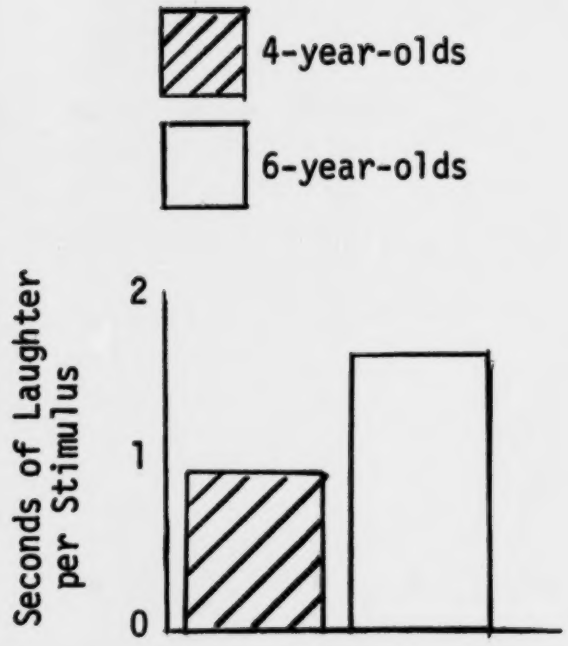
KOSSLYN-HENKER, STUDY I

A. SMILING BY AGE AND SOCIAL CONTEXT

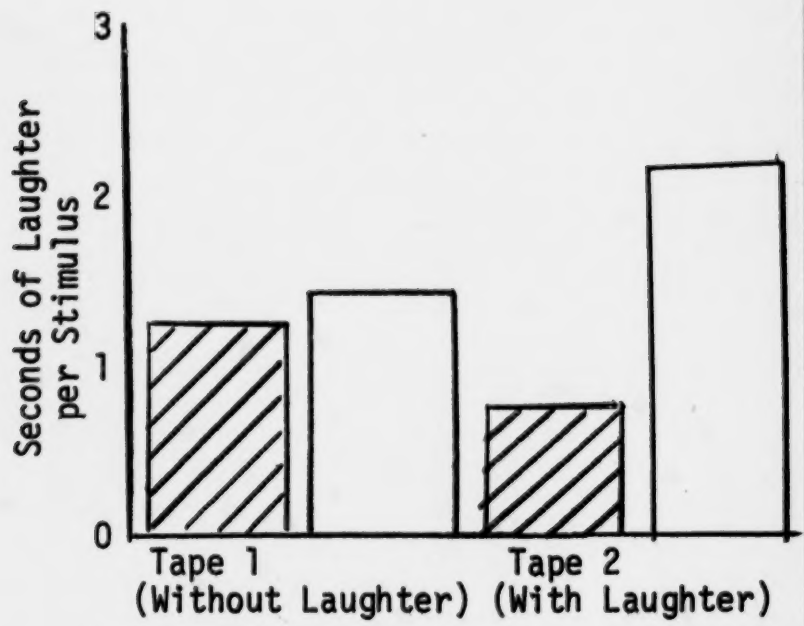


B. SMILING BY AGE AND ORDER OF SESSION

KOSSLYN-HENKER, STUDY II

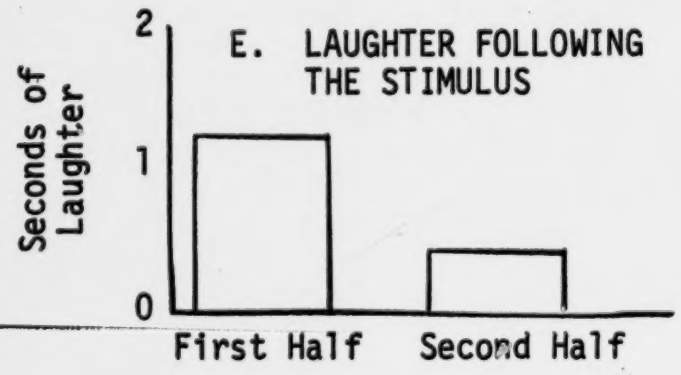


C. AGE BY LAUGHTER

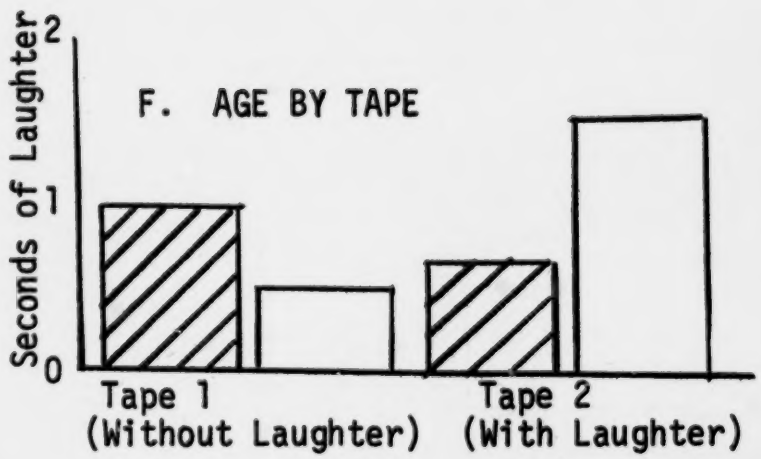


D. AGE BY TAPE

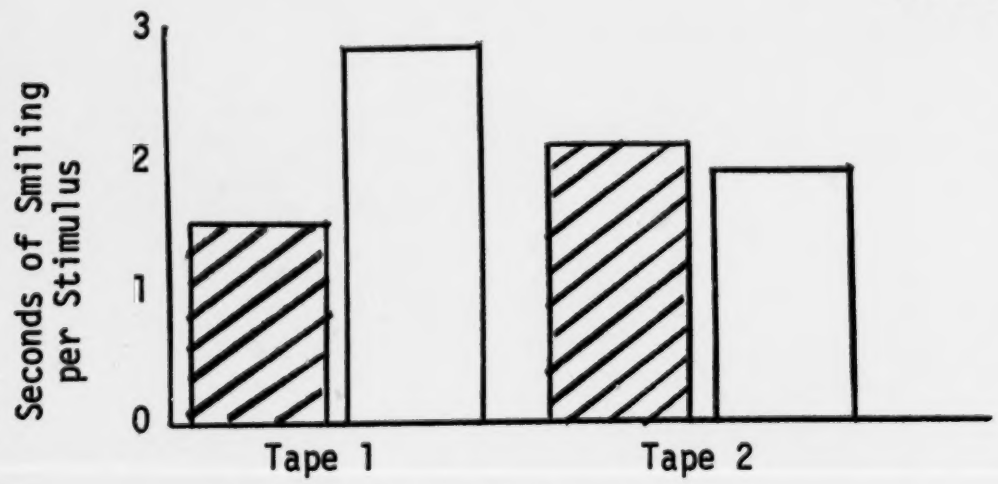
STIMULUS THREE



E. LAUGHTER FOLLOWING THE STIMULUS



F. AGE BY TAPE



G. SMILING BY AGE AND TAPE